

Appln. No. 10/628,518
Amdt dated September 30, 2005
Reply to Office Action of May 31, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 10 (Cancelled)

11. (Currently Amended) A system for managing environmental comfort at a site, the site having a temperature and environment management system, the temperature and environment management system being supplied with energy from an energy provider, comprising:

a humidity sensor for sensing humidity at the site;

a temperature sensor for sensing air temperature at the site;

a thermostatic device in communication with the energy provider to receive a current ~~characteristic~~ cost of energy, the thermostatic device being coupled to the humidity sensor and the temperature sensor and configured for receiving an input from a user, the input including a temperature setpoint and a selection of one of a plurality of comfort level scenarios, wherein each of the comfort level scenarios relate to a willingness to pay for energy at the expense of comfort, the thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity and for controlling the temperature and environment management system to maintain air temperature at the site within a deadband defined by the effective setpoint and an offset from the effective setpoint, wherein the offset is based on the selected comfort level scenario and the ~~current characteristic of energy~~ level of energy cost.

12. (Previously Presented) A system, as set forth in claim 11, wherein the thermostatic device includes a processor, a communications channel coupled to the temperature and environment management system, a display coupled to the processor, and a control panel coupled to the processor for receiving the input from the user.

13. (Currently Amended) A system, as set forth in claim 12, wherein the thermostatic device receives the current ~~characteristic~~cost of the energy and displays the current ~~characteristic~~cost on the display.

14. (Previously Presented) A system, as set forth in claim 12, wherein the display and control panel are implemented in a graphic user interface.

15. (Previously Presented) A system, as set forth in claim 11, wherein the effective setpoint is equal to the temperature setpoint plus a predetermined number of degrees per a predetermined percentage decrease in relative humidity for cooling applications and the effective setpoint is equal to the temperature setpoint minus a predetermined number of degrees per a predetermined percentage increase in relative humidity for heating applications.

16. (Previously Presented) A system, as set forth in claim 15, wherein the thermostatic device tracks user adjustments to the temperature setpoint and responsively modifies at least one of the predetermined number of degrees and the predetermined percentage increase or decrease in relative humidity.

Claims 17 - 19 (Cancelled)

20. (Previously Presented) A system, as set forth in claim 11, wherein the temperature and environment management system includes at least one of a humidifier and a de-humidifier, wherein the thermostatic device controls the at least one of a humidifier and a de-humidifier as function of the effective setpoint, the offset, and the sensed temperature and humidity.

Claims 21 - 52 (Cancelled)

Claims 21 - 52 (Cancelled)

53. (Currently Amended) A method for managing air quality at a site, the site having a temperature and environment management system, the temperature and environment management system being supplied with energy, comprising:

sensing humidity at the site;

sensing air temperature at the site;

receiving a characteristic of energy from the energy provider;

receiving input from a user, the input including a temperature setpoint and a selection of one of a plurality of comfort level scenarios, wherein each of the comfort level scenarios relate a willingness to pay for energy at the expense of comfort;

determining an effective setpoint as a function of the temperature setpoint and the sensed humidity; and,

determining an offset from the effective setpoint based on the selected comfort level scenario and the current characteristic of energy, wherein the offset varies from the effective setpoint as a function of the selected comfort level scenario and the current characteristic of energy;

controlling the temperature and environment management system to maintain air temperature at the site ~~with~~ within a deadband defined by the effective setpoint and the offset.

54. (Previously Presented) A method, as set forth in claim 53, including the step of displaying the characteristic of energy on a display.

55. (Previously Presented) A method, as set forth in claim 53, wherein the effective setpoint is equal to the temperature setpoint plus a predetermined number of degrees per a predetermined percentage decrease in relative humidity for cooling applications and the effective setpoint is equal to the temperature setpoint minus a

predetermined number of degrees per a predetermined percentage increase in relative humidity for heating applications.

56. (Original) A method, as set forth in claim 55, further including the step of tracking user adjustments to the temperature setpoint and responsively modifying at least one of the predetermined number of degrees and the predetermined percentage increase or decrease in relative humidity.

Claims 57 - 59 (Cancelled)

60. (Previously Presented) A method, as set forth in claim 53, including the step of controlling at least one of a humidifier and a de-humidifier as function of the effective setpoint, the offset, and the sensed temperature and humidity.

61. (Previously Presented) A method, as set forth in claim 53, including the step of allowing the user to define a plurality of occupancy modes, each occupancy mode having a user defined temperature setpoint.

62. (Original) A method, as set forth in claim 61, wherein each occupancy mode includes a default comfort level scenario.

63. (Previously Presented) A method, as set forth in claim 61, wherein at least one occupancy mode has an associated recovery time, the recovery time being a desired time period in which the temperature and environment management system transitions between a previous occupancy mode and the at least one occupancy mode.

64. (Original) A method, as set forth in claim 63, including the step of allowing the user to set at least one start time for the at least one occupancy mode.

65. (Original) A method, as set forth in claim 64, including the step of transitioning from the previous occupancy mode to the at least one occupancy mode at a time equal to the at least one start time.

Claims 66 - 84 (Cancelled)

85. (Currently Amended) A system, as set forth in claim 11, wherein the ~~characteristic of energy includes a plurality of levels including of energy cost include~~ low, medium, high and critical, wherein the offset from the effective setpoint is determined for each of the ~~characteristic cost~~ levels of energy within each scenario.

86. (Previously Presented) A system, as set forth in claim 11, wherein the thermostatic device allows the user to define a plurality of occupancy modes, each occupancy mode having a separate user defined temperature setpoint and selected comfort level scenario.

87. (Previously Presented) A system, as set forth in claim 86, wherein each occupancy mode includes a default scenario.

88. (Currently Amended) A system, as set forth in claim 86, wherein at least one occupancy mode has an associated recovery time, the recovery time being a desired time period ~~in which the system transitions of the transition~~ between a previous occupancy mode and the at least one occupancy mode.

89. (Previously Presented) A system, as set forth in claim 86, wherein the thermostatic device allows the user to set at least one start time for at least one occupancy mode.

90. (Previously Presented) A system, as set forth in claim 89, wherein the system is adapted to transition from the previous occupancy mode to the at least one occupancy mode at a time equal to the at least one start time minus the recovery time.

91. (Previously Presented) A system, as set forth in claim 11, wherein the comfort level scenarios are related to the user's willingness to pay for the energy.

92. (Previously Presented) A system, as set forth in claim 91, wherein the plurality of comfort level scenarios includes at least maximum savings, balanced savings and comfort, and maximum comfort.

Claims 93 - 95 (Cancelled)

96. (Previously Presented) A system, as set forth in claim 13, wherein the current characteristic of energy is displayed graphically using a symbol.

97. (Current Amended) A system, as set forth in claim 13, wherein the current characteristic of energy is displayed using at least one of ~~a color~~, a size and a number of symbols displayed to provide an indication of the relative cost of energy.

98. (Cancelled)

99. (Previously Presented) A method, as set forth in claim 53, wherein the characteristic of energy includes a plurality of levels including at least low, medium, high

and critical, wherein the offset is determined for each of the characteristic levels of energy with each scenario.

100. (Previously Presented) A method, as set forth in claim 61, including the step of allowing the user to select one of the comfort level scenarios for each of the plurality of occupancy modes, wherein the offset is determined for each occupancy mode based on the selected comfort level scenario and the characteristic of energy when the temperature and environment management system is operating within the occupancy mode.

101. (Cancelled)

102. (Currently Amended) The method, as set forth in claim ~~101~~ 53, wherein the plurality of comfort level scenarios include maximum savings, balanced savings and comfort, and maximum comfort.

103. (Cancelled)